



14 December 1981

MINUTES OF MEETING

Subject: Anaconda-Alcan Joint Potlining Disposal Study

Date and Place: 8 December 1981, Montreal

Attending: Anaconda

Dr. E.L. Cambridge  
Mr. David S. Moran  
Mr. John B. Snodgrass

Alcan

Messrs.

B. Gnyra  
H.S. Monahan  
J.S. Mutchmor  
K.I. Verghese

C. Chamberland )  
S.M. Patterson ) part time  
S.T. Solinski )

Purpose

The primary purpose of the meeting was to decide whether there is sufficient common interest to proceed with a Pre Phase 1 study on potlining disposal and treatment.

Decisions Taken

1. There is sufficient common interest to proceed with Pre Phase 1 study. A secrecy agreement was signed and exchanged (Appendix A).
2. The attached Pre Phase 1 study program was agreed to.
3. The target date for the completion of Pre Phase 1 study is the end of March 1982.
4. Alcan will send to Anaconda the definition of a Level 1 estimate. Anaconda will send to Alcan their definition of a Conceptual Estimate. Based on these, we shall agree on a common definition of the kind of capital cost estimate required for the Pre Phase 1 study.
5. The first pass of the study will be based on capital costs and operating costs that exclude capital recovery and transportation between the smelter and the plant.

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6. Base disposal costs will be estimated for the following cases:
  - a) 2-5000 t/year potlining (metric)
  - b) 10-15,000 t/year potlining
  - c) 30,000 t/year potlining
7. Alcan will send to Anaconda a copy of the EPAA report by D.C. Menegoz and G. Dupraz
8. Anaconda had submitted proposals for the scope for continuation of the study beyond the Pre Phase 1 at the initial meeting in July 1981. These were modified by Alcan and submitted. They are attached as Appendix B and will be discussed at the next meeting.
9. The next meeting will be held in Tucson in the first half of January. The exact date will be set by Messrs. Moran and Monahan.

#### Discussion

The agenda followed is attached as Appendix C.

Alcan's basic need is the safe disposal of spent potlining. Recovery of any valuable materials must be justified on an economical basis. Alcan's spent potlining disposal needs are of the order (1) 2 - 3000 t/year; (2) 10 - 15,000 t/year; (3) 30,000 t/year (metric). Alcan has very little interest in a larger sized (ex. 80,000 t/year) operation. EPA regulations would apply for the safe disposal of potlining.

See EAC letter 12/22/81 { Anaconda's primary interest is environmentally acceptable disposal of potlining; but would like to produce  $AlF_3$  from potlining, if economical, as they currently purchase their total requirements of  $AlF_3$  at approximately US\$950/ST.

Anaconda generates about 3000 ST/year potlining at Seabree and 5000 ST/year at Columbia Falls. Anaconda is interested in studies for the disposal of potlining in the tonnages of interest to Alcan as their smelter locations are suitable to enter partnership with others to generate the required tonnages.

Total potlining generation in the U.S.A. is about 197,000 ST/year of which 40% is generated by Alcoa smelters. The potlining generation is concentrated in four geographical areas as follows (Fig. 1):

(1) Lower Mississippi	41,000 ST/year	(18,000 ST/year Alcoa)
(2) Ohio Valley	78,000 ST/year	(26,000 ST/year Alcoa)
(3) North West	59,000 ST/year	(11,000 ST/year Alcoa)
(4) North East	19,000 ST/year	( 8,000 ST/year Alcoa)

The Alcan Group potlining generation is shown in Table 1. The European situation as of 1976 is given in Table 2. In Eastern Canada almost all of the potlining generated is used for the recovery of cryolite. In the West, it is all dumped at an approved disposal site.



In Europe, the total potlining generation is estimated at 222,000 t/year, of which 51,000 t/year are consumed in the recovery of materials or by other industries.

The overall scope of the proposed program was briefly discussed. Anaconda stated that they consider that they have done a significant amount of work during the last six months and they wish to be considered more than a junior partner for the developmental phases, if conducted. This aspect will be discussed as part of the terms for Phase 1 study.

A secrecy agreement was signed and exchanged. The various processes Alcan considered in the past (Appendix D) were briefly described. In addition, the Wetox process was also considered. Anaconda mentioned the different processes they considered and left a copy of their report "Technical Review of Potentially Available Technologies for the Treatment of Aluminum Potlining", Report #81-23, Project 125-51130.

K.I. Verghese

KIV:CB  
Atts. 8

Copies to: (atts. )

Anaconda Aluminum Company: Tucson  
Dr. E.L. Cambridge  
Mr. David S. Moran  
Mr. John B. Snodgrass

Mr. J.S. Mutchmor  
Mr. S.M. Patterson  
Mr. W.W. Robertson  
Mr. S.T. Solinski

Mr. B. Gnyra: Kingston

Société d'électrolyse et de chimie Alcan Limitée: Montréal  
Mr. C. Chamberland  
Mr. H.S. Monahan